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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/668,049	09/21/2000	E. L.E. Kluth	GB9902596.7	9057

7590 06/23/2003  
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EXAMINER

TRA, TUYEN Q

ART UNIT	PAPER NUMBER
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2873

DATE MAILED: 06/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/668,049

Applicant(s)

KLUTH ET AL.

Examiner

Tuyen Q Tra

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on 11 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☐ Claim(s) 2-8, 10-13, 16-19 and 21-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 8, 10-13 and 16-18 is/are allowed.
- 6) ☐ Claim(s) 2, 3, 7, 19, 21-28, 30, 31, 35 and 38-40 is/are rejected.
- 7) ☐ Claim(s) 4-6, 29, 32-34, 36 and 37 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## **DETAILED ACTION**

### **Reconsideration of Cited Art**

1. After reconsideration of the cited art (Zeller et al.), the Examiner found a barrier fluid (abstract, line 9, Fig. 3), sensor highway comprising of conduit (wellbore 4, Fig. 1). Therefore, the indicated allowability of claims 2 and 19 are withdrawn and new rejection is set forth below.

### ***Claim Objections***

2. Claims 2, 3, 8, 10, 11, 12 and 19 are objected to because of the following informalities:
- Claim 2, line 7, "fluid barrier reservoir" should be changed to --barrier fluid reservoir--.
  - Claim 3, line 2, "fluid barrier reservoir" should be changed to --barrier fluid reservoir--.
  - Claim 8, lines 6 and 10, "fluid barrier reservoir" should be changed to --barrier fluid reservoir--.
  - Claim 10, lines 6, 10, 11, 12 and 13, "fluid barrier reservoir" should be changed to --barrier fluid reservoir--.
  - Claim 11, lines 1 and 2, "fluid barrier reservoir" should be changed to --barrier fluid reservoir--.
  - Claim 12, lines 2 and 4, "fluid barrier reservoir" should be changed to --barrier fluid reservoir--.
  - Claim 19, line 7, "reservoir fluid" should be changed to --fluid reservoir--.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 2, 3, 7, 21-24, 30, 35 and 38-40 are rejected under 35 U.S.C. 102(b) as being anticipated by Zeller et al. (E.P. Pat. 0695853 A2).

a) With respect to claim 2, Zeller et al. discloses in Fig. 3 a first tubing container (26) containing a communication cable and a sensor (32) in communication therewith, the sensor (32) being located within the tubing proximate the remote location;

a second tubing (140) having a first end in fluid communication with the first tubing proximate the sensor (32), and a second end, and

a barrier fluid reservoir (22) containing a barrier fluid (abstract line 9), the fluid barrier having a first opening in fluid communication with the second end of the second tubing at (128), and a second opening in fluid communication with the remote location (Figure 3).

b) With respect to claim 3, Zeller further discloses wherein a first flow control element (capillary 104) disposed within the second tubing (140) between the first tubing (26) and the fluid barrier reservoir (22), the first flow control element configured to be actuated between a first state allowing fluid flow in the second tubing in any direction, and a second state restricting fluid flow in the second from fluid reservoir.

c) With respect to claim 7, Zeller further discloses wherein a fluid motive apparatus (104, 130) for passing fluid into the first and second tubing (26, 140), and a fluid volume measuring device configured to measure the volume of fluid passed into the first and second tubing by the fluid motive apparatus (104, 130).

d) With respect to claim 21, Zeller further discloses wherein the cable and sensor are adapted to be moved from a first location to a second location through the first tubing.

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- e) With respect to claim 22, Zeller further discloses wherein the cable and sensor are adapted to be moved by fluid flow in the first tubing.
- f) With respect to claim 23, Zeller further discloses wherein a highway (26, 30) extending a length of a wellbore, the highway comprising the first tubing (26).
- g) With respect to claim 24, Zeller further discloses wherein the cable and sensor are adapted to be moved from a well surface to the remove location in a well through the first tubing.
- h) With respect to claim 30, Zeller et al. discloses in Fig. 3 an apparatus for sensing comprising of conduit (wellbore 4, Fig. 1) containing a communication cable (connected to sensor 12, Fig. 1) and a sensor (12, Fig. 1) coupled to the cable, the cable and sensor adapted to be deployed through the conduit (wellbore 4) from a first location to a second location; and  
a barrier fluid assembly (22, Fig. 3) containing a first barrier fluid (abstract line 9), the first barrier fluid adapted to isolate well fluids from fluid in the conduit.
- i) With respect to claims 35 and 38, Zeller et al. further discloses wherein the first barrier fluid comprise liquid metal; wherein the cable and sensor are adapted to be deployed through the conduit by fluid in the conduit.
- k) With respect to claims 39 and 40 , it should be noted that although claims 39 and 40 are “method claims”, the method steps consist of the broad step of “deploying”, “providing” and; therefore these steps would be inherently satisfied by the apparatus of the reference as modified.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 19, 25-28 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zeller et al. (E.P. Pat. 0695853 A2), as applied to claims 2 and 30 above, in view of Kluth et al. (U.S. Patent 6,532,839 B1).

a) With respect to claims 25, 26 and 31, Zeller et al. discloses a downhole memory gauge protection system with a cable and sensor. However, Zeller et al. fails to teach an optical fiber cable and optical fiber sensor. Within the same field of endeavor, Kluth et al. teach an apparatus for the remote measurement of physical parameters with teaching of optical fiber cable (3) and optical fiber sensor (1) in Fig. 1.

It would have been obvious, therefore, at the time the invention was made to a person having skill in the art to construct the downhole memory gauge protection system such as disclosed by Zeller et al., with optical fiber cable and sensor such as discloses by Kluth, for purpose of remotely sensing and measuring parameter of fluid.

b) With respect to claim 19, Zeller et al. disclose a downhole memory gauge protection system comprising of sensor (12, Fig. 1) and fiber optic cables (connected to the sensor 12) surrounded by fluids (inside the wellbore 4) which are inert with respect to the sensor (12) and optical cables located in a reservoir (22, Fig. 3) is connected on one side of the barrier fluid to the sensor highway (wellbore 4, Fig. 1) and on the other side of the barrier fluids is connected to a hydrocarbon reservoir fluid (through an orifice 128, Fig. 3), wherein the barrier fluid in the fluid reservoir form a barrier against the ingress of molecules from the hydrocarbon reservoir

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fluid to the sensor highway side of the fluid reservoir where the sensors and optical cable are located, wherein the sensor highway is a conduit through which the sensors (12) and optical cables (connected to the sensor) are adapted to be moved from one location to another location.

However, Zeller et al. fails to teach an optical fiber cable and optical fiber sensor. Within the same field of endeavor, Kluth et al. teach an apparatus for the remote measurement of physical parameters with teaching of optical fiber cable (3) and optical fiber sensor (1) in Fig. 1.

It would have been obvious, therefore, at the time the invention was made to a person having skill in the art to construct the downhole memory gauge protection system such as disclosed by Zeller et al., with optical fiber cable and sensor such as discloses by Kluth, for purpose of remotely sensing and measuring parameter of fluid.

c) With respect to claims 27 and 28, Zeller et al. further discloses wherein the sensor and optical cables are adapted to be moved through the sensor highway (wellbore 4) by fluid flow in the sensor highway.

#### **Allowable Subject Matter**

10. Claims 8, 10-13 and 16-18 are allowed.

The reason for the indication of allowable subject matter is set forth in previous office action.

11. Claims 4-6, 29, 32-34, 36, 37 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The reason for the indication of allowable subject matter is that (claim 4) second flow control element disposed within the first tubing, the second flow control element configured to be actuated between a first state allowing fluid flow in the first tubing in any direction, and a second state restricting fluid flow from the first tubing; (claim 5) a gel plug disposed within the second tubing between the first tubing and the barrier fluid reservoir, the gel plug comprising a volume containing a gel selected to chemically isolate the barrier fluid from fluids within the first tubing; (claim 29) the sensor highway (wellbore 4) has a first section adapted to extend from a well surface to a remote location in a well, and a second section adapted to extend from the remote location back to the well; (claim 32) the barrier fluid assembly contains a second barrier fluid that is non-miscible with the first barrier fluid; (claim 36) the barrier fluid assembly comprising a reservoir containing the first barrier fluid, the reservoir having an opening to receive well fluids, the barrier fluid assembly further comprising a piston in the reservoir to separate the well fluids and the first barrier fluid, the piston to communicate pressure of the well to the first conduit disclosed in the claims is not found in the prior art.

### *Conclusion*

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuyen Tra whose telephone number is (703) 306-5712. The examiner can normally be reached on Monday to Friday from 8:30am to 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps, can be reached on (703) 308-4883. The fax number for this Group is (703) 308-7722.



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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

tt

June 5, 2003

*the group*